

*Please fill in the form in the grey spaces, by following the instructions in italic.*

<b>Country:</b>	<i>Indonesia</i>
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<b>Date</b>	<i>January 8<sup>th</sup>, 2015</i>
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<b>Title</b>	<i>Integrated River and Coastal Management toward Sustainable Giant Sea Wall Jakarta</i>
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**Contact information:**

*Please fill in the table below with the requested information. The request proponent is the organization that the request originates from, if different from the National Designated Entity (NDE).*

	<b>National Designated Entity</b>	<b>Request Proponent</b>
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**Geographical focus:**

*{Select below the most relevant geographical level for this request:}*

- Community-based*  
 *Sub-national*  
 *National*  
 *Multi-country*

*{If the request is related to the sub-national or multi-country level, please indicate here the areas concerned (provinces, states, countries, regions, etc.)}*

**Theme:**

*{Select below the most relevant theme(s) for this request:}*

- Adaptation to climate change*  
 *Mitigation to climate change*

*Combination of adaptation and mitigation to climate change*

**Sectors:**

*Coastal Zones Adaptation*

**Problem statement (up to one page):**

*Climate changes have become global emerging issue today. It gives wide range of impacts such as extreme weather, sea level rises, bio-diversity loss and threatens human health. As commonly known, the earth temperature has significantly increased over the decades, this condition has been implies on melting the glaciers and ice sheets which led to sea level rises. IPCC (2013) projected 70% of the global coastlines are going to experience sea level change within 20% of the global mean sea level. This condition threatens small islands and coastal activities worldwide.*

*Indonesia as the largest archipelago country posses 95,181 kilometers of coastal line and 13,446 islands is currently facing the climate changes impacts. It becomes more serious problem when 50%-60% of the population lives on the coastal zone. Jakarta as the capital of Indonesia is currently facing serious problem related to the sea level rises, floods and land subsidence. Flood in Jakarta is an annual event due to inadequate 300m<sup>3</sup>/second water management from 13 rivers in the peak of rainy season. Moreover, most of the rivers that flow into Jakarta suffered from water pollution from both upstream and downstream area. Environmental Management Agency (BPLHD) of Jakarta (2013) in the document of Regional Environment Status of Jakarta estimated 70% of water pollutants were domestic waste. The lack of environmental awareness from the community is the results of hereditary paradigm that considers the river as a backyard. These conditions worsened by the 10cm/ years land subsidence due to uncontrolled deep groundwater extraction. It is predicted the northern part of Jakarta will be gradually submerged up to 6.9m in 2050, ITB (2008). Regarding this situation, Government of Jakarta and National Government of Indonesia have started the Jakarta Giant Sea Wall (GSW) project in 2014 with completion in the next 10-15 years. This project is accelerated into the third stage (sea dikes plan III 2020-2030); without going through steps I and II. The project is a joint project between the Government of Indonesia and Netherlands; the project is designed and led by Netherlands consortium. This project is formally known as National Capital Integrated Coastal Development (PTPIN) master plan with two main outcomes; i) strengthening the 30km coastal dikes along the north coast and constructing 17 artificial islands in the bay of Jakarta, ii) the GSW; a giant dike (32 kilometers-wide) which includes an airport, harbor, toll road, residential area, industrial area, waste treatment, water reservoir, and green areas, on a space of about 4,000 hectares.*

*However, the taken actions are still in the initial stages with long term impacts. Some studies conducted to mapping out the conditions and suggest some actions, but many stakeholders are still lacking of clear knowledge to understand the GSW project as an integrated management. The GSW should be understood as a comprehensive upstream-downstream water resources management, not only limited to the physical construction of the sea wall itself. Although there have been several project on coastal reclamation in Indonesia such as 150 Ha Losari in Makassar and 63 Ha Nipah Island, but the 30 km length sea-wall with 17 artificial islands and integrated upstream-downstream water resources management are much way different and surely larger impacts. Some threats that may occur from improper planning and design are; sedimentation, slowing river flow due to longer river path~increasing the river-water level, economic transformations to the fishermen due to the relocation of fishing ports, marine ecosystem changes due to closed-system of the dikes (water not flowing), etc. Thus, the GSW project should consider the water management as a comprehensive aspect such as technology, policy, and the socio-economy. Re-evaluating the plan through comprehensive assessment is absolutely needed.*

*Considering all those mentioned problems, some actions are required to bridge the problems and the goals. The actions requested to CTCN will be technical assistance and capacity building in water resources management for 13 rivers that flow into Jakarta and identifying the best available technology for giant sea wall of Jakarta, Indonesia. The identified technology should be aligned with local conditions of the Greater Jakarta. This technical assistance is targeted to local institutions (provincial government, related ministries, and R&D institutions) as the decision maker, and any related stakeholder involved. It may cover two main component:*

- *The identification of best available technology for GSW Jakarta;*
  - *This component is proposed to re-evaluate and give input to the decision making about the best technology for GSW project. The suggestions (for design and technology) are based on comprehensive assessment, not only the physical aspect of sea dikes, but also the socio-economic of the communities as well as environmental conditions (water resources management).*
- *An integrated water resources management (upstream-downstream);*
  - *This component is proposed to enhance the capacity and quality of related stakeholders (government and communities) in managing the GSW as an integrated water resources management, both rivers (upstream-downstream) and coastal management.*
  - *Support the integration of river and costal area management through developing the center of excellences as the expert and information pool for sustainable management of GSW Jakarta.*

**Past and ongoing efforts** (up to half a page):

*As an archipelago country, Indonesia has realized the future challenges of climate changes to the country. Learnt from past event on, flash and tidal flood, and land subsidence in many places throughout Indonesia, the government through related ministries has conducted many actions through arrangements (by spatial planning and physical development) as adaptation actions. Based on the Technology Need Assessment (TNA) document, there are three main physical actions suggested in tackling the sea level rise in Indonesia i.e. seawall/ revetment, groin and reclamation. It is also supported by some regulations i.e. Act no 27/2007 on the Management of Coastal Areas and Small Islands detailed in Ministry of Marine Affairs and Fisheries Decree SK.64D/P3K/IX/2004 on guideline in coastal reclamation, Act no 7/2004 on Water Resources Management detailed in Presidential Decree no 33/2011 on National Policy on Water Resources Management. Despite of various efforts has been conducted by the government, but in fact has not been able to overcome the problem yet.*

*In this case, the Giant Sea Wall Jakarta has through feasibility study process. The next process is a construction stage which is projected to be accomplished in the next 10-15 years. By the help of CTCN, the stakeholders and decision maker are expected to have better paradigm and capability to manage the rivers and coastal area through integrative mechanism, as well as to re evaluate the best technology for GSW project through a comprehensive assessment.*

**Assistance requested** (up to one page):

*From the technological point of view, Indonesia is capable to conduct coastal protection as well as coastal reclamation project. But, given the large number of coastal regions with high level of vulnerability, then transfer of technology and dissemination from one area to another area as best practices is needed to be immediately carried out. In addition, enhancing skill and knowledge on integrated river management (upstream-downstream) with the coastal management are still needed, including the current technology (for example, interm of structure and design), the possibility of innovation in materials from abroad / developed countries (transfer of knowledge) as well as the socio-*

*economic aspects.*

*The request is basically a kind of technical assistance and capacity building in water resources management for 13 rivers that flow into Jakarta and identifying the best available technology for giant sea wall of Jakarta, Indonesia. In more detail, it will cover:*

- *The development of baseline condition of rivers and coastal area that related to GSW project, including the socio-economic aspects (used as inputs to re-evaluate the project)*
- *Capacity building and technical assistance for knowledge transfer on giant sea wall technology (best design aligned with local conditions)*
- *Capacity building and technical assistance in integrating water resources management (upstream-downstream) and coastal management toward sustainable GSW Jakarta for the decision makers.*
- *Capacity building and technical assistance for developing the center of excellences as the expert and information hub for sustainable management of GSW Jakarta. The center of excellence will be provided with information system that manages every activity related to the GSW. In the future, it is expected to be an interactive forum that could accommodates every information from various stakeholders.*
- *Capacity building and technical assistance for shifting the community paradigm on river as a backyard*
- *Provide the supporting policy and regulation*
- *More widely expand the international cooperation network through sister city with other countries experienced similar projects.*

*The activities that will be conducted may cover:*

- *Survey on the baseline condition of rivers and coastal area that related to GSW project*
- *Field visit and knowledge exchanges (two-way) with related institutions or countries*
- *Identification of the best practices and overcoming barriers from similar projects abroad (integrated water resources management and coastal management with comprehensive aspects, i.e. technology, policy, socio-economic, environment, etc)*
- *Analyze the good practices (best technology) for the implementation in Indonesia*
- *Strengthening multi-stakeholders cooperation on the river and coastal management toward sustainable GSW*
- *The establishment of center of excellence as the expert and knowledge hub for sustainable management of GSW Jakarta.*
- *Socialization and dissemination to the communities*
- *Develop supporting policy and regulation*
- *Dissemination workshop*

**Expected benefits**(up to half a page):

*The Great Sea Wall Jakarta is proposed not only as a tool to save Jakarta from flood and sink, but also for the new activity center includes an airport, harbor, toll road, residential area, industrial area, waste treatment, water reservoir, and green areas. In the other hand, the stakeholder and decision maker are still lacking of knowledge on the integrated management of river (upstream-downstream) and coastal area. There is also lack of best practice in institutional arrangement, spatial and infrastructure management in adapting the climate changes, especially in the coastal area. The assistance is expected strongly contribute to climate change adaptation in Indonesia, especially Jakarta.*

- *In short term, will give better chance to manage the water resources (upstream-downstream) and select the appropriate technology to tackle the sea level rises impacts and flood in Jakarta,*

- *In the long term, will improve the management quality of water resources (upstream-downstream), spatial planning, infrastructures, and environmental sustainability in the coastal area. The center of excellence is expected to leverage wider stakeholders and even policy maker toward better management through participative approach. In turn, the PTPIN will become an ideal role model for other coastal city in facing the climate changes impact in Indonesia.*

**Post-technical assistance plans (up to half a page):**

*After the technical assistance, it expected there will be the availability of a capable team which consists of various stakeholders that will act as advisor toward the development and management of rivers (upstream-downstream) and the Giant Sea Wall Jakarta. Various stakeholder involved is expected as a bridge to facilitate multi-institutional coordination in the future.*

*Specifically, follow-up activities to be carried out after the technical assistance namely;*

- *The establishment of a team of experts who will oversee and provide inputs to decision makers*
- *Integrating long term plan from related stakeholders through center of excellences forum.*
- *Dissemination activities to the relevant stakeholders, as well as transfer of knowledge*
- *Establishment of supporting regulation*
- *Assist the monitoring and evaluation activities*

**Key stakeholders:**

*In the implementation of the project, coordination with other institutions/ stakeholder is importantly required especially to discuss the project implementation. Below is the table of stakeholders and their contributions according to their role to support the implementation of the assistance and to whom the result of these activities would be useful and given as beneficiaries.*

<u>Stakeholder</u>	<u>Role to support the implementation of the assistance</u>
<i>Jakarta Research Council</i>	<i>Main counterpart of CTCN expert/ Project proponent</i>
<i>Provincial Government of Jakarta/ BAPPEDA</i>	<i>Local government and policy executor on river and GSW management</i>
<i>Provincial Government of West Java/ BAPPEDA</i>	<i>Local government and policy executor on river management</i>
<i>Provincial Government of Banten/ BAPPEDA</i>	<i>Local government and policy executor on river management</i>
<i>BAPPENAS</i>	<i>National planning agency, macro policy regulator, macro spatial planning regulator</i>
<i>Ministry of Public Works</i>	<i>Public infrastructure provider</i>
<i>Ministry of Marine Affairs and Fisheries</i>	<i>Policy regulator on coastal zone development</i>
<i>Ministry of Environment and Forestry</i>	<i>Policy regulator on environmental protection</i>
<i>Association of Marine Survey Contractor Indonesia</i>	<i>Research association on marine resources survey</i>
<i>Indonesian Planning Expert Association (IAP)</i>	<i>Inputs for spatial planning</i>
<i>Universities</i>	<i>Give inputs and support the activities (in related</i>



background)

**Alignment with national priorities (up to half a page):**

The request from CTCN as mention above is in line with the documented National priorities which each brief explanation can be seen below.

- *Medium term development plan of Republic Indonesia 2015-2019*  
Jakarta as the Capital of Republic Indonesia play important role in the economic activity. Some priorities related to Jakarta are transportation, flood, disaster and economic development.
- *Master plan of Jakarta 2010-2030 (RTRW Jakarta 2010-2030)*  
Master plan of Jakarta already stated the northern coast reclamation is needed to provide new activity center in Jakarta.
- *Strategic assessment on spatial planning of Jakarta Province*
- *Technology Need Assessment 2012*  
Technology Need Assessment (TNA) document suggested three main actions in tackling the sea level rise in Indonesia i.e. seawall/ revetment, groin and reclamation.

**Development of the request (up to half a page):**

The request was initially developed based on a notification from the NDE. It was informed that the support is not a physical project financing but the technical assistance for adaptation and mitigation actions. Proposal should be submitted to the NDE and then selection will be conducted by NDE based on the national priority program and the important impact to the society. NDE also encourages that the project should involving stakeholders.

Jakarta Research Council on behalf of the Provincial Government of Jakarta is interested in submitting this project. This proposal is prepared together with the CTC Indonesia/ TPSA-BPPT (as CTCN Network based Indonesia). To develop and select this request, consultations have been conducted between the Jakarta Research Council team and NDE Indonesia. It was discussed and agreed that main request is a kind of technical assistance and capacity building in water resources management for 13 rivers that flow into Jakarta and identifying the best available technology for giant sea wall of Jakarta, Indonesia. By overcoming these problems it is expected that the decision maker could manage the water resources from upstream to downstream and run the Giant Sea Wall Jakarta project properly, and further overcome the sea level rises problem.

The proposal has been reviewed by NDE Technical Team and approved by NDE Steering Committee.

**Expected timeframe:**

This project is expected to be carried out in 1 year with the time schedule as follows

No.	Activities	Time (per 1 month)											
		1	2	3	4	5	6	7	8	9	10	11	12
1	<i>Institutional Mapping and Program Preparation</i>												
2	<i>Survey on the baseline condition of rivers and coastal area that related to</i>												



- *Ministry of Public Works Regulation No. 40/PRT/M/2007 on Spatial Planning Guidelines in Coastal Reclamation Area*

<http://www.penataanruang.com/pedoman-kawasan-reklamasi-pantai.html>

- *Technology Need Assessment -Adaptation 2012*

[www.dnpi.go.id](http://www.dnpi.go.id)

- *Medium term development plan of Republic Indonesia 2015-2019*

[www.bpkp.go.id/public/.../Buku%20II%20RPJMN%202015-2019.pdf](http://www.bpkp.go.id/public/.../Buku%20II%20RPJMN%202015-2019.pdf)

**Monitoring and impact of the assistance:**

*{Read carefully and tick the boxes below.}*

By signing this request, I affirm that processes are in place in the country to monitor and evaluate the assistance provided by the CTCN. I understand that these processes will be explicitly identified in the Response Plan in collaboration with the CTC, and that they will be used in the country to monitor the implementation of the CTCN assistance.

I understand that, after the completion of the requested assistance, I shall support CTCN efforts to measure the success and effects of the support provided, including its short, medium and long-term impacts in the country.

**Signature:**

NDE name: NDE Indonesia

Date: 14 January 2015

Signature: Head of NDE Indonesia Secretariat



**THE COMPLETED FORM SHALL BE SENT TO THE [CTCN@UNEP.ORG](mailto:CTCN@UNEP.ORG)**

*Need help? The CTCN team is available to answer questions and guide you through the process of submitting a request. The CTCN team welcomes suggestions to improve this form.*

*>>> Contact the CTCN team at [ctcn@unep.org](mailto:ctcn@unep.org)*